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SPECIAL PAMPHLET *No. 63*

WAR-TIME PRODUCTION SERIES

AGRICULTURAL
SUPPLIES
BOARD
OTTAWA CANADA

THE EFFICIENT BROODING OF CHICKS

Canada's Poultry Keepers have a Patriotic Duty to Perform.

The urgent need for eggs for Britain makes it essential that Canadian producers should strive to the utmost to see that this need is met.

EFFICIENCY should be the watchword so that Canada may supply as many eggs as possible to Britain and of a quality that will be a credit to Canada.

Artificial Methods of Brooding

Chicks well hatched from good parent stock and which are efficiently brooded without chilling, overheating or overcrowding and fed a well balanced ration offer almost a sure guarantee of profitable returns later.

Chicks should be ordered several weeks in advance of the desired delivery date to avoid disappointment. Do not purchase more chicks than your poultry house will accommodate or than your brooder can care for properly. Remember, chicks are babies and require special care. Avoid chilling or overheating.

There are several systems of artificial brooding in use, such as the battery, the hot water pipe system and electric, gas, oil, coal and wood burning heaters. For general farm conditions the brooder stove placed in a colony house has, up to the present, proved the most satisfactory. When a steady supply of electricity and a well insulated house is available this method of brooding is the most convenient and most economical of labour. Batteries are satisfactory and are used to a considerable extent for starting chicks and also for raising them to broiler age. For the general farmer, however, the coal or wood burning stove, depending on the availability and cost of coal or wood in the district has given the best satisfaction.

A spare room in any well-built outbuilding or poultry house may be used for brooding but such quarters should be thoroughly cleaned and disinfected before being put to use. All connection with the old stock should be removed so as to avoid infection that may be present in the mature stock being transmitted to the chicks.

Brooding pens should be thoroughly cleaned before being used. Scrub them out thoroughly and saturate the walls and floors with strong lye solution. This will not only clean but will kill everything with which it comes in contact. After using the lye solution flush out the pens with clean water.

The lye will kill all mites. Waste crank case oil used on the roosts and their supports will ensure against the reappearance of mites.

A good method to follow is to use portable colony houses which may be moved from time to time as required to assure the chicks having fresh uncontaminated ground over which to run.

A colony house 10 by 12 feet will comfortably accommodate from 200 to but care should be taken to provide sufficient hopper space. A safe

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estimate is 1 inch of feeding space for each chick, and as the chicks grow, the space should be increased accordingly. Allow not less than ⅖ square foot of floor space per chick for the first four weeks, ¾ square foot from four to eight weeks and 1 square foot thereafter. Avoid overcrowding.

Where colony houses are used before April they should be well banked with straw or earth to prevent cold floors. This is especially necessary where electric hovers are used and an extra depth of litter is advisable. Operate according to manufacturers' instructions. Avoid floor draughts.

Preparing for the Chicks

On the floor, in the centre of the brooder house, place a tin mat or a sufficient number of bricks to stand the stove on. Then place a guard of 1 by 3 inch lumber, stood on edge around this, leaving sufficient clearance all round the stove. Fill the space inside the guard rail with sand as a precaution against danger of fire from the stove. On the remainder of the floor litter should be placed to the depth of one or two inches. Wood shavings have been found excellent for this purpose, but straw, chaff, peat moss or even fine gravel is suitable. Where shavings or chaff are used the surface of the sand around the stove should be kept free from litter.

Four pieces of galvanized iron about 3 feet long by 18 inches high may be used to round the corners of the house to prevent crowding.

For the first few days a guard made of either square mesh stiff wire cloth or galvanized iron about a foot high can be used to encircle the stove until the chicks become familiar with the source of heat. The guard should be set at a distance of about 20 inches from the outside rim of the hover. Each day this circle should be enlarged until finally the guard is removed. Care should be taken to make the enclosed circle sufficiently large so that the chicks are not kept too close to the source of heat.

Chicks should be kept as cool as is consistent with their comfort, but should always have a source of heat where they may go to rest in a temperature of about 100°. No thermometer, however, is as good an indicator as the chicks themselves. Their actions will tell at once whether they are comfortable or not. If comfortable they will rest contentedly in a circle just outside the canopy of the stove; if not warm enough they will indicate by their discontented chirping and crowding to the source of heat; if too hot they will get as far away from the stove as possible to go around with their mouths open panting for breath. A drop in temperature of a few degrees each week after the first week is advisable.

Fires should be stoked twice daily. The larger stoves are safer and usually more economical even if they are not always run to capacity. The fire in the smaller stove is much more difficult to control and in windy weather there is always danger of its burning out. No matter what size stove is used a key pipe should be used to provide against windy weather.

The length of the brooding period usually runs from four to eight weeks depending largely on the weather. The temperature should be gradually lowered as the comfort of the chicks permits and an abundance of fresh air provided.

Roosts on frames covered with wire mesh to prevent the chicks coming in contact with the droppings should be installed when the chicks are three to four weeks old so as to encourage early roosting. These should be placed on the slope, on the back part of the frames a foot or more above the floor and the front of the frames resting on the floor so that the chicks will take to them more readily. When the chicks get accustomed to them the frames may be raised in front so that the roosts will be on the level as in the laying houses. A 12-inch board the length of the width of the pen is placed under the front of the roost thus forming a manure pit from which the chicks are excluded.

When the chicks are old enough to do without heat the stoves should be removed and the sexes separated. Cockerels to be retained for the selection of breeders should be put in separate runs in range roosting coops; those to be raised as broilers put in more or less confined quarters and fed a finishing ration. The pullets should remain in the brooder houses until they require more room, when a sufficient number may be taken out and placed in roosting coops so that the remainder will not be overcrowded.

Feeding the Chicks

When the house has been made ready, the fountains filled with water from which the chill has been removed, the hoppers filled with grit, shell charcoal and dry mash, and a little coarse river sand, chick grit or fine oyster shell scattered over the surface of the mash in the hoppers, the chicks are put in the house spread in a circle on the floor just outside the canopy and they are well started.

For the first few days old newspapers may be placed on the top of the litter round the hover and the hoppers put on these. A little feed should be scattered on the papers around the feeders until the chicks learn to eat. To ensure cleanliness the top sheet of paper should be removed each day or oftener.

When the chickens have learned to go to the hoppers for their feed the papers should be removed and frames 2 or 3 inches high by about 4 feet long and covered with wire mesh should be placed on the litter on the floor to carry water fountains and mash hoppers. This raises them sufficiently high to prevent the litter from being scratched into them.

Hoppers of chick-size grit, oyster shell and charcoal should be hung at a convenient height on the walls or placed on the wire frames.

Feeding should be allowed right from the start and little time is required to attend to a colony. The stoves should be attended to regularly and care taken to see that they are properly regulated. The fountains should be filled with fresh water and the feed hoppers with dry mash. Weather permitting, the chicks should be got out on to the ground as soon as they get used to their quarters, say by two or three weeks. Be sure to see that the ground is clean and uncontaminated. When this is done a board about 3 feet long and 12 inches high is placed about a foot back from the exit and another board from the top of this to the wall above the exit. This forms a passage for the chicks to get to the exit and prevents the winds from blowing in the opening and directly under the hover.

If the weather is bad so that the chicks have to be kept to the house, a few clean sods to tear at, will keep them busy; in the absence of these, a mangel or a sheaf of alfalfa should be supplied.

Brooding Summary

To start—Have a well built house properly equipped as previously described with the heater running and properly regulated for a day or two before starting the chicks. Feed hoppers and water fountains filled, the guard around the stove in place, and the chicks hardened for twenty-four hours before being placed in the house spread out around the rim of the hover where the temperature should be about 100° a couple of inches above the floor. Most poultry keepers will find it more satisfactory, and as economical, to use a good commercial starter mash, but care should be taken to see that it does not contain too high a percentage of fibre.

1st to 6th week—The feed hoppers may be placed on papers for a day or two with some feed scattered round the hoppers until the chicks learn to go to the hopper for feed As soon as they do, the hoppers and water fountains should be placed on wire covered stands so that they may be kept free from litter.

The space enclosed round the hover by the guard fence should be enlarged each day until the chicks have become accustomed to their quarters when it may be removed.

At 3 to 4 weeks—The roosts should be put in to encourage roosting.

6th week—Take out the cockerels that are intended for broilers and continue mash feeding. For the last couple of weeks before marketing, give one or two feeds per day of moist mash of half starter and half ground corn mixed with milk. This will improve the finish on the birds.

To the remainder of the chicks, start feeding a small amount of grain mixture, increasing gradually until the chicks are consuming about equal parts grain and mash by the time they are about 10 weeks of age. Growing mash should then be gradually substituted for the starter mash.

When the chicks are old enough to be given free range (this will depend on the season of the year) they should be hopper fed with both growing mash and grain. They will consume grain and mash as their appetites dictate, which will vary with the period of growth from about 50-50 grain and mash, to 75 grain and 25 mash.

Closing the hoppers for a period of four to six hours during the day encourages the birds to get out and rustle and consume more green feed.

If home-grown grains are available they may be ground and used to advantage at this time. The rate of sexual development is largely dependent upon the amount of animal feed supplied. Where pullets are developing too rapidly, increase the percentage of whole grain fed and the tendency will be to grow frame rather than to hasten sexual maturity.

An ideal range for chicks is a clover or grass field beside a corn field, or an orchard, where they can get all the succulent green feed they can eat and still have shade as required. Given these conditions, once the chicks go upon range, they can be reared with little labour, dependence being placed largely on hopper-feeding.

DO

Operate the brooder stove for several days to get it perfectly regulated and operating properly before the chicks are trusted to it.

Check the chicks twice in the evening, first at dusk then again before going to bed to see that they are well spread out and comfortable.

Clean the drinking fountains daily.

Keep the feed hoppers clean and free from litter.

Keep a pan of water on the top of the stove to prevent the air from becoming too dry in the brooder house.

Keep the pen well ventilated at all times, but avoid draughts.

When shifting the chicks to range shelters early in the season hang bags or sacking over the open sides and ends of the coop to prevent chilling.

Move the hoppers and waterers frequently when on range—at least once weekly—and be sure that sufficient space is always supplied.

Buy chicks from pullorum-free or blood tested flocks only.

DON'T

Don't use musty litter of any kind; it is dangerous.

Don't allow the chicks to become *chilled* or *overheated*, one is as bad as the other and both will result in upset digestion and diarrhoea.

Don't allow the chicks to pile up. This is liable to happen if the chicks get cold or if there is a spot of sunshine on the floor.

Don't keep the brooder too hot it will result in poor feathering.

Don't give the chicks ice water. Take the chill off it.

Don't fill the hoppers too full as it is wasteful. The oftener the feed can be all consumed the fresher it will be.

Don't frighten the chicks. Move about the pen quietly.

Plans for colony houses, range shelters and range hoppers may be obtained from your nearest Agricultural College, Dominion Experimental Station or the Poultry Division, Central Experimental Farm, Dominion Department of Agriculture, Ottawa.

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